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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/867,418	05/31/2001	Kenji Hori	P 281359 OSP-10476	7533
909	7590	10/15/2004	EXAMINER	
PILLSBURY WINTHROP, LLP			ALEXANDER, LYLE	
P.O. BOX 10500			ART UNIT	
MCLEAN, VA 22102			PAPER NUMBER	
			1743	

DATE MAILED: 10/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/867,418

Applicant(s)

HORI ET AL.

Examiner

Lyle A Alexander

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 July 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 4/15/04.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

Claim Rejections - 35 USC § 102

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-7, 17-18 and 20 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Nakagawa et al. (USP 6,429,035).

Nakagawa et al. teach in column 4 lines 40+ melting polycrystalline silicon and subsequent analysis by secondary ion mass spectrometry to determine the impurities in the silicon.

Additionally, with respect to new claim 20, the taught hydrofluoric and nitric acids have been read on the claimed enchant.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 9-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakagawa et al. in view of Padovani et al.

See Nakagawa et al. *supra*.

Nakagawa et al. and JP are silent to the claimed filtering of the polycrystalline silicone.

Padovani et al. teach a method for the refining of silicone. Column 5 lines 11+ teach use of a filter to remove solid contaminates from the silicone. It is desirable to remove solids from the liquid silicone because the solids will be impurities.

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It would have been within the skill of the art to modify Nakagawa et al. or JP in view of Padovani et al. and use a filter to remove solids from the silicone to gain the advantages of removing impurities.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakagawa et al. in view of Okada et al.

See Nakagawa et al. *supra*.

Nakagawa et al. and JP are silent to the use of a scanning electron microscope or energy dispersive X-ray spectrography.

Okada et al. teach in column 70 lines 41+ the use of energy dispersive X-ray spectrography (EDX hereafter), to measure impurities in silicone. EDX is advantageous because it can look at very small and specific zones.

It would have been within the skill of the art to modify Nakagawa et al. or JP in view of Okada et al. and use EDX to gain the above advantages.

Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakagawa et al. in view of JP 11145230 (references as JP hereafter).

See Nakagawa et al. *supra*.

JP teaches dissolving silicon with a mixture of hydrofluoric and nitric acids.

The court decided In re Boesch (205 USPQ 215) that optimization of a result effective variable is ordinarily within the skill of the art. A result effective variable is one that has predictable and well-known characteristics. The choice of acid to dissolve the silicon is a result effective variable as long as the expected result of silicon dissolution is

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achieved. It is desirable to have the choice of several different acids in the event that one is unavailable or experience price fluctuations.

It would have been within the skill of the art to modify Nakagawa et al. in view of JP and use a well known alternative acid to dissolve silicon, such as hydrofluoric and nitric acids, to gain the above advantages as optimization of a result effective variable.

Response to Arguments

Applicant's arguments filed 7/27/04 have been fully considered but they are not persuasive.

Applicants' state Nakagawa et al. cannot be read on the instant claims because it fails to teach the claimed agent having polycrystalline silicon dispersed therein.

Nakagawa et al. teach in column 4 lines 43+ melting indium and then melting the polycrystalline silicon into the liquid indium to form a saturated solution of polycrystalline silicon. The indium has been read on the claimed "agent" having polycrystalline silicon dissolved therein.

Applicants' state the remainder of the rejections require Nakagawa et al. as the primary reference and also define over Nakagawa et al. for the above reasons. The Office maintains Nakagawa et al. is proper and has been correctly applied.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

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mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lyle A Alexander whose telephone number is 571-272-1254. The examiner can normally be reached on Monday, Wednesday and Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on 571-272-1267. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Lyle A Alexander
Primary Examiner
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